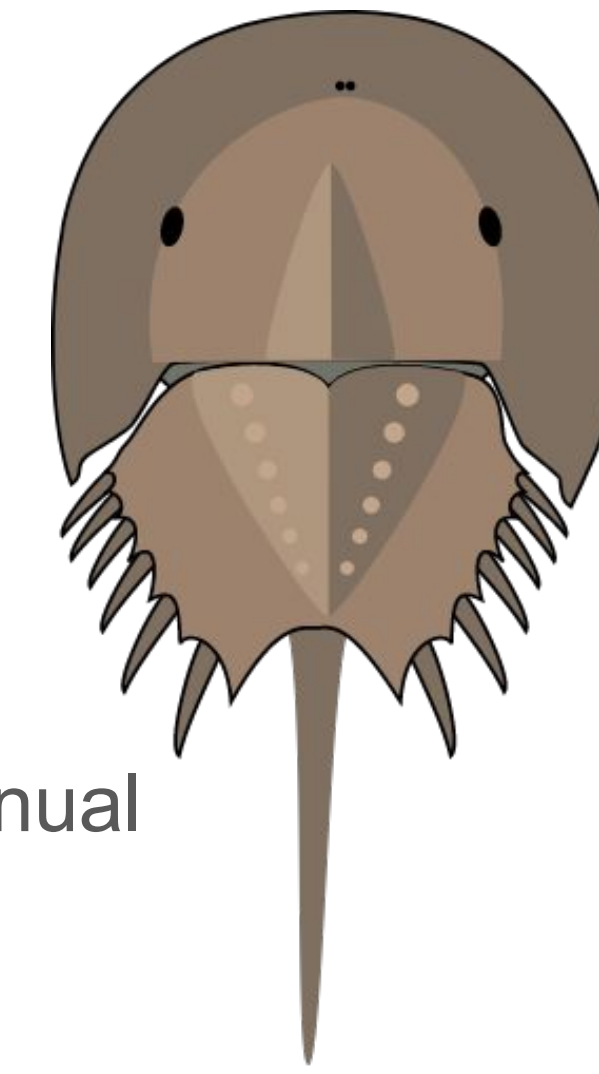


# After decades of decline, horseshoe crab populations have been stable or increasing in Massachusetts

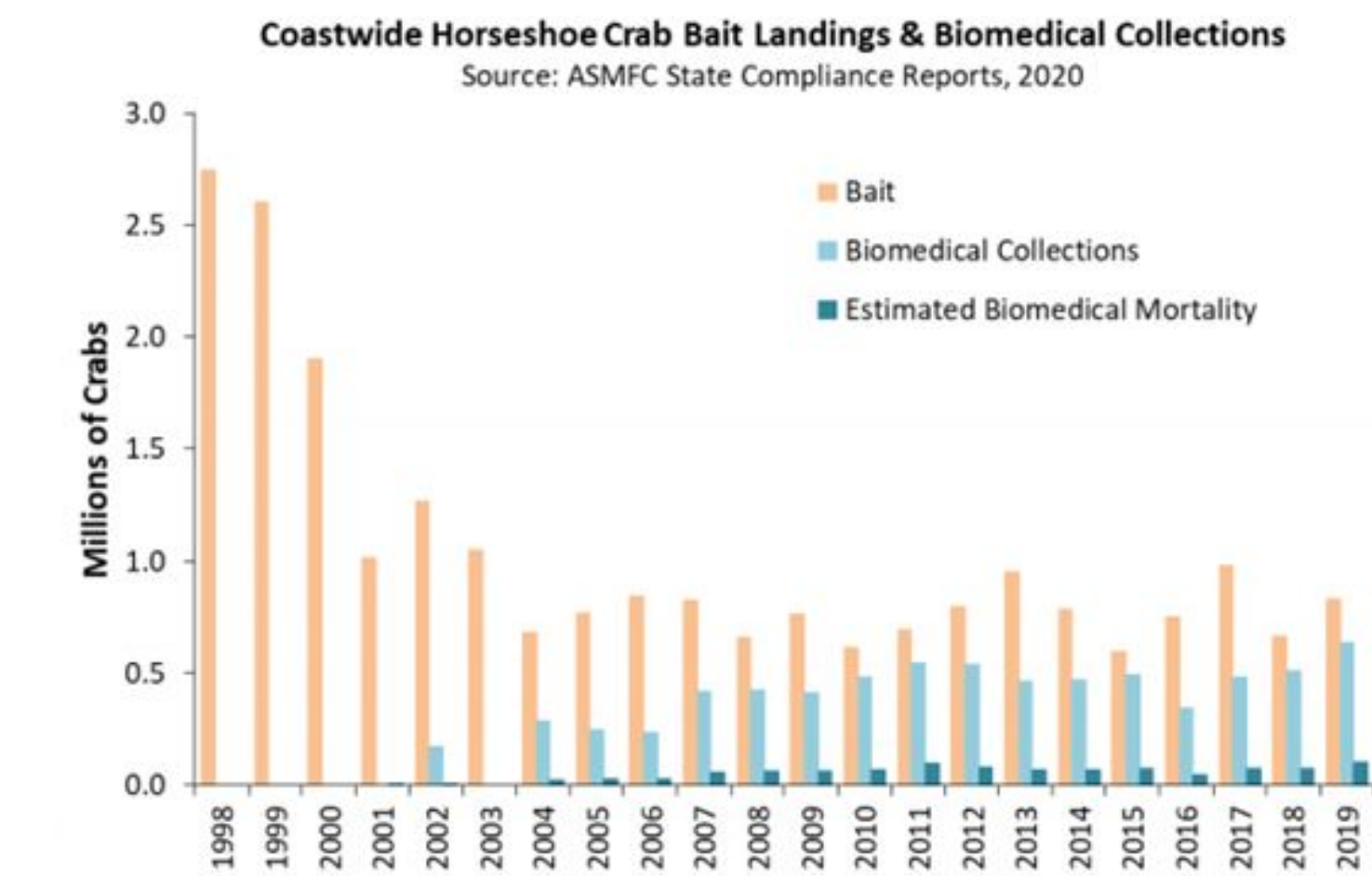


Massachusetts made horseshoe crab harvest regulations more strict in 2008. Current regulations require:

- Harvesters must have a permit and report landings.
- 7" minimum prosomal width (widest part of shell).
- Daily harvest limits
  - 300 crabs/mobile gear
  - 400 crabs/hand harvest
  - 1,000 crabs/biomedical use
- Maximum Massachusetts annual quota of 165,000 crabs total.
- No harvest in the five days around the new and full moons from mid-April through June.

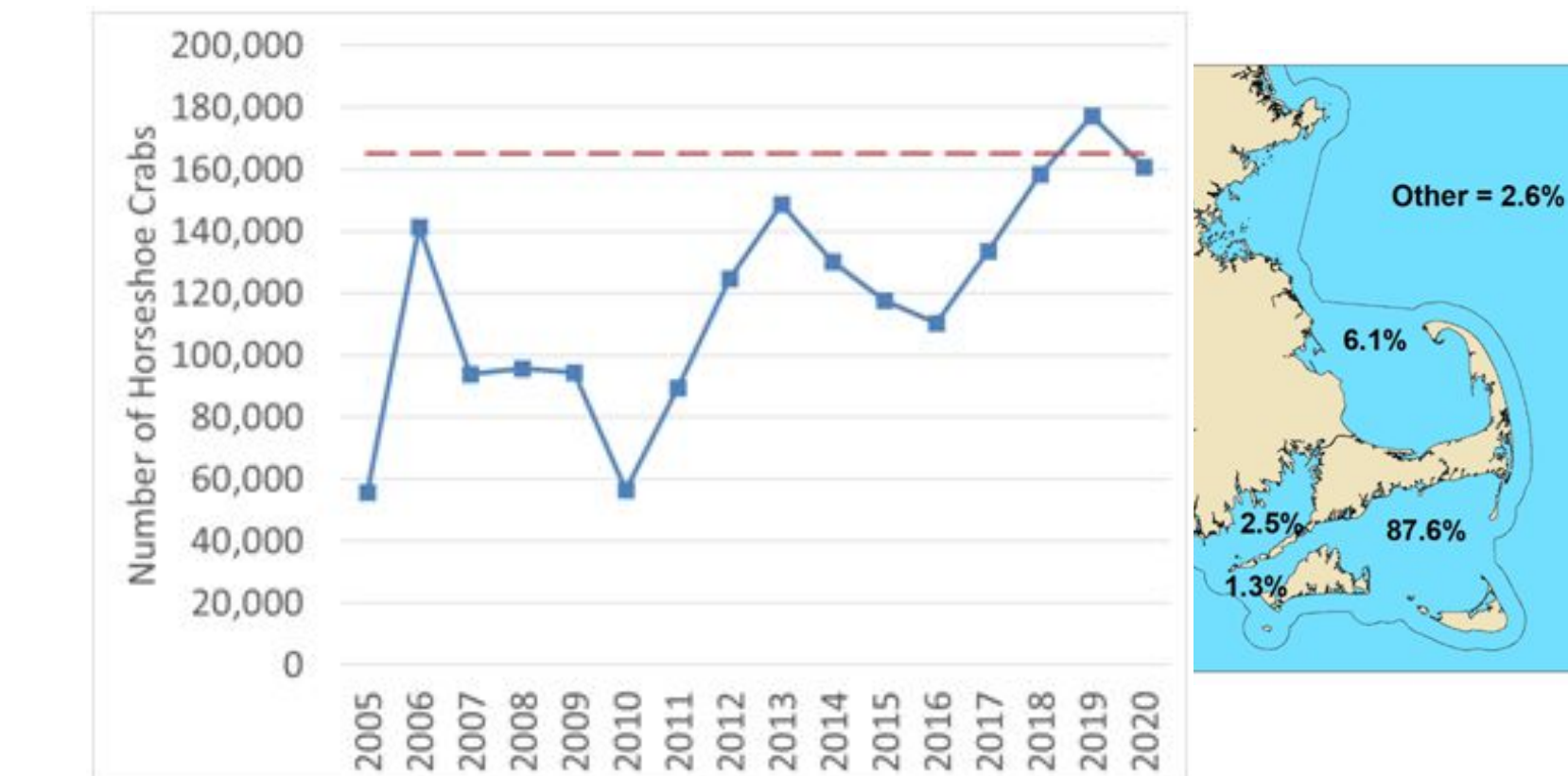


## Horseshoe crabs are harvested for bait and biomedical testing



Horseshoe crabs are harvested as bait for the eel and whelk fisheries, and for the medical industry where an extract from their blood is used to test if injectable medicines are sterile.

For the past few years, close to 165,000 horseshoe crabs (the annual maximum quota) have been harvested for bait. Most are collected from Nantucket Sound.



Percentages on the map indicate the proportion of horseshoe crabs harvested in different areas of Massachusetts' waters.

## Data are collected by citizen science volunteers and by the state

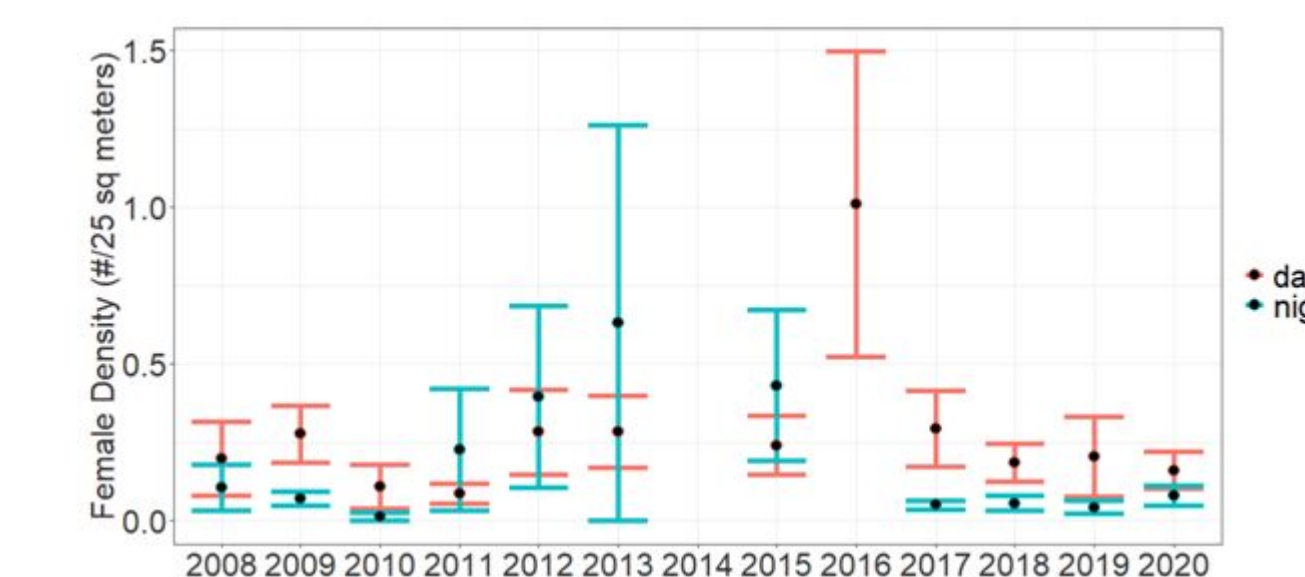
### Horseshoe crabs come to shore every spring to reproduce



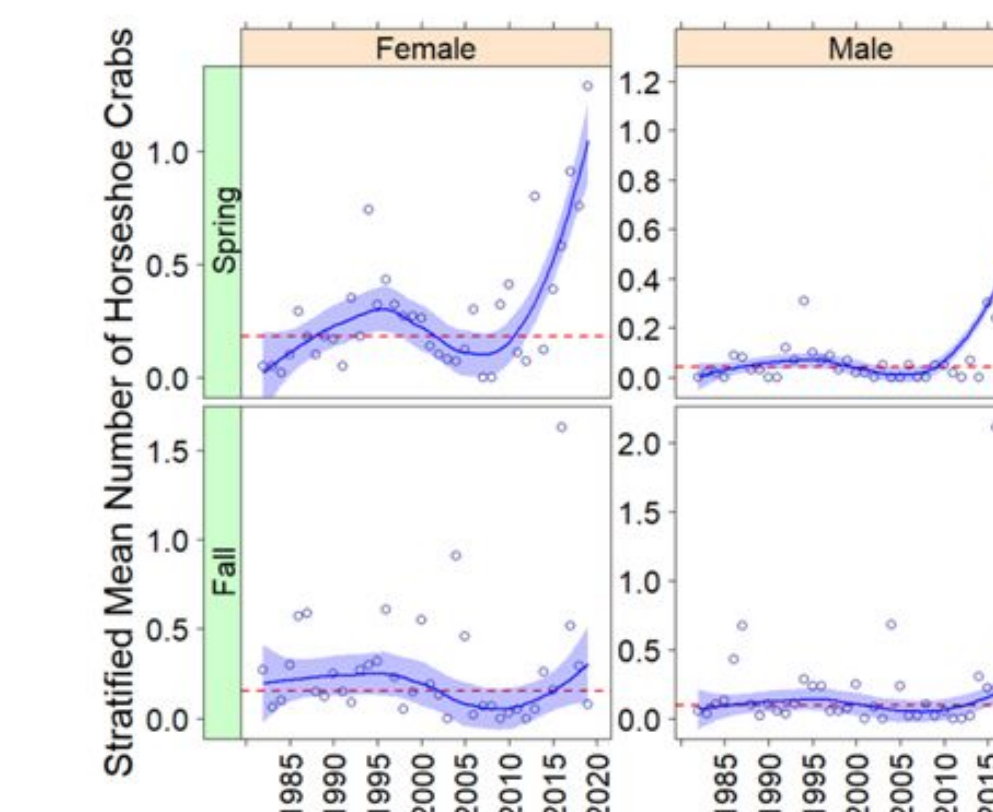
Citizen scientists collect data on the beach when crabs come ashore in the spring to reproduce. Volunteers record **density** (total crabs per unit area) and **spawning index** (females per unit area) at locations shown on the map.



At Duxbury Beach (Location #1) spawning has generally remained stable over the past 12 years.



Female spawning density for Duxbury Spawning Beach Survey (site #1 on map to left), organized by the North and South Rivers Watershed Association.



MA Division of Marine Fisheries samples the ocean floor each year. **Horseshoe crab numbers have increased over the past 10 years.**

Red, dashed line is the time series median, blue line is a loess\* fit to the data. Blue shaded area is an approximate 95% confidence interval for the fit.

\*(Local regrESSion) – a curved line fit to scatterplot data that shows a moving trend

## Why it Matters

Horseshoe crabs have many roles to play. They are an essential part of the marine food web — and help our marine economy. Protecting their habitat is just as crucial as managing their harvest.

## What You Can Do



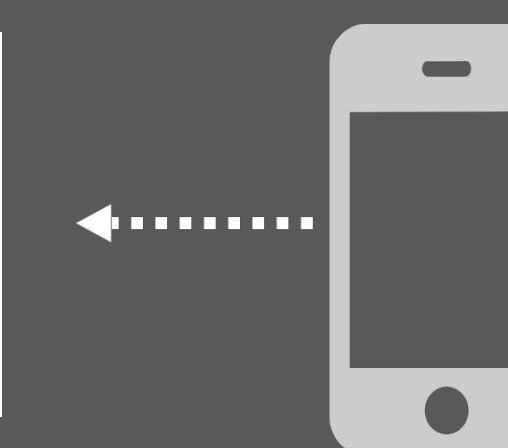
Photo: S. Ting-Chong

- Volunteer for citizen science monitoring efforts (including horseshoe crab monitoring).
- Protect estuarine habitat in your community.
- Learn about the many other important species that live on our coasts.



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North and South Rivers Watershed Association

Thanks to Derek Perry from Mass. Division of Marine Fisheries for assistance with statewide data and graphics.



Learn more about horseshoe crab monitoring

